

CLAIMS

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AI
1. A method for encoding an electronic document having markup language content, wherein the document includes at least one tag and an associated content, the method comprising the steps of:
 - 5 (a) separating the tag from the content with a separation variable;
 - (b) replacing the tag with an alias, wherein the alias is a pre-defined representation for the tag; and
 - (c) inserting at least one flag within the tag to form an encode tag structure,10 wherein a first encoded document is formed.
 2. The method for encoding of claim 1, wherein the step of replacing includes the step of replacing at least one attribute type within the tag with an attribute alias, wherein the attribute alias is a predefined representation for the attribute type.
 - 15 3. The method for encoding of claim 1, further comprising the steps of:
 - (d) UTF-8 encoding the first encoded document to form a second encoded document.20
 4. The method for encoding of claim 3, further comprising the step of:
 - (e) compressing the second encoded document to form a compressed document.

5. The method for encoding of claim 1, wherein the step of inserting includes the step of inserting a position flag to indicate whether the tag is a start tag or an end tag.
- 5 6. The method for encoding of claim 1, wherein the step of inserting includes the step of inserting a word break flag between a left and right term of the associated content, whereby a word break may be readily identified during a run-time search operation.
- 10 7. The method for encoding of claim 1, wherein the step of inserting includes the step of inserting a no search flag in association with a portion of the content information, whereby a no search field may be readily identified and skipped during a run-time linear search.
- 15 8. The method for encoding of claim 1, further comprising the step of:
(d) replacing a URL within the content information with a reference string,
whereby the file referenced by the URL may be readily accessed when selected during run-time.
- 20 9. A computer-readable medium having computer-executable instructions for performing the steps recited in claim 1.
10. A method for pre-computing an electronic document having markup language content comprising the steps of:
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- (a) identifying a tag between a left and a right term within a document;
- (b) determining whether the tag is within a single word; and
- (c) if the left and right terms are not part of a single word, inserting a word break flag between the left and right term,

5 whereby a word break may be readily identified during a run-time search operation.

11. A computer-readable medium having computer-executable instructions for performing the steps recited in claim 10.

- 10 12. A method for pre-computing an electronic document having markup language content comprising the steps of:

- (a) identifying a tag within a document associated with a portion of content;
- (b) determining whether the portion is to be displayed for viewing by a reading device; and
- (c) if the portion is not to be displayed for viewing, inserting a no search flag in association with the portion,

15 20 whereby a no search field may be readily identified and skipped during a run-time linear search.

13. A computer-readable medium having computer-executable instructions for performing the steps recited in claim 12.

14. A method for pre-computing an electronic document having markup language content comprising the steps of:

- (a) identifying a Uniform Resource Locator (URL) within a document;
- (b) searching a manifest file for a file referenced by the URL; and
- 5 (c) if the file is identified in the manifest file with a reference string, replacing the URL with the reference string for the file,

whereby the file referenced by the URL may be readily accessed when selected during run-time.

10 15. A computer-readable medium having computer-executable instructions for performing the steps recited in claim 14.

16. A method for encoding an electronic document comprising the steps of:

- 15 (a) locating a tag within the document associated with a portion of content;
- (b) identifying a pre-defined integer alias for the tag; and
- (c) replacing the tag with the alias,

whereby the tag may be readily identified during run-time parsing of the document.

20 17. The method of encoding of claim 16, further comprising the steps of:

- (d) locating an attribute type within the tag;
- (e) identifying a pre-defined attribute alias for the attribute type; and
- 25 (f) replacing the attribute type with the attribute alias.

18. A computer-readable medium having computer-executable instructions for performing the steps recited in claim 16.
19. A computer-readable medium having stored thereon a markup language document comprising in combination:
- 5 (a) at least one tag having encoded therein a predefined integer alias for the tag;
- (b) an content portion associated with the tag;
- (c) a code separating the tag from the content portion,
- 10 whereby the content and markup within the document may be readily parsed at run-time.
20. The computer-readable medium of claim 19, wherein the tag further includes at least one flag wherein the flag is selected from the group consisting of
- 15 WORDBREAK, NOSEARCH, STARTTAG, and ENDTAG.
21. The computer-readable medium of claim 19, wherein the tag further includes at least one pre-defined attribute type alias.
22. The computer-readable medium of claim 19, wherein the markup language document is UTF-8 encoded.
- 20 22. The computer-readable medium of claim 19, wherein the markup language document is UTF-8 encoded.
23. The computer-readable medium of claim 22, wherein the markup language document is compressed.
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24. A computer-readable medium having stored thereon an electronic book having a file format hierarchy comprising in combination:

- (a) a root directory;
- (b) a content subdirectory linked to the root directory, the content subdirectory having nested therein at least one linked content file providing content information relating to the electronic book, wherein the content file is pre-computed and encoded to minimize computational run-time requirements.

10 25. The electronic book of claim 24, further comprising:

- (c) at least one link destination index file linked to the content file.

26. The electronic book of claim 24, further comprising:

- (c) a page break index providing an index of page break corresponding to the electronic book.

27. The electronic book of claim 24, further comprising:

- (c) a metadata file linked to the root directory and having information about the electronic book.

28. The electronic book of claim 24, further comprising:

- (c) a manifest file linked to the root directory providing a listing of the files in the content subdirectory relating to the electronic book.

29. The electronic book of claim 24, wherein the content database further includes at least one Cascading Style Sheets (CSS) file.
30. The electronic book of claim 24, further comprising:
- 5 (c) a metadata file linked to the root directory and having information about the electronic book; and
31. The electronic book of claim 24, further comprising:
- 10 (c) a digital rights management database linked to the root database.
32. A method of converting an electronic document comprising markup language therein, the method comprising the steps of:
- 15 (a) receiving the document having a first format;
- (b) processing the document to encode and pre-compute the markup language within the document; and
- 20 (c) forming a converted document, wherein the converted document has a file format hierarchy comprising in combination:
- (i) a root directory; and
- (ii) a content subdirectory linked to the root directory, the content subdirectory having nested therein at least one linked content file providing content information relating to the converted document.
33. The method of converting of claim 32, wherein the first format is an Open E-Book format.
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